Mr. David G. Wonnell
U. S. Gypsum Company
P.O. Box 1377
Shoals, IN 47581

Re: **101-11204**
Significant Source Modification to:
Part 70 Permit No.: **T 101-7691-00001**

Dear Mr. Wonnell:

United States Gypsum Company was issued Part 70 Operating Permit **T 101-7691-00001** on May 24, 1999 for a gypsum mining operation and a gypsum wallboard and plaster products manufacturing plant. An application to modify the source was received on August 3, 1999. Pursuant to 326 IAC 2-7-10.5 the following emission units are approved for construction at the source:

(ee) One (1) calcining kettle, identified as #1 MBR Kettle, with a maximum throughput of 35.2 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 1, and exhausting to one (1) stack, identified as S-1.

(ff) Three (3) natural gas-fired kettle burners, identified as #1 MBR Kettle Burners, each with a heat input capacity of 5 million Btu per hour, and exhausting to one (1) stack, identified as S-41.

(gg) One (1) hot pit, identified as Hot Pit #1, with a maximum throughput of 35.2 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 6, and exhausting to one (1) stack, identified as S-6.

The following construction conditions are applicable to the proposed project:

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Management (OAM).

2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

The proposed operating conditions applicable to these emission units are attached to this Source Modification approval. These proposed operating conditions shall be incorporated into the Part 70 operating permit as an administrative amendment in accordance with 326 IAC 2-7-10.5(l)(1) and 326 IAC 2-7-11.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter contact Patrick T. Brennan, c/o OAM, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, at 516-691-3395 or in Indiana at 1-800-451-6027 (ext 516-691-3395).

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

Attachments
PTB/MES
cc: File - Martin County
U.S. EPA, Region V
Martin County Health Department
Air Compliance Section Inspector - Gene Kelso
Compliance Data Section - Karen Nowak
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michele Boner

PART 70 OPERATING PERMIT
OFFICE OF AIR MANAGEMENT

United States Gypsum Company
State Road 650
Shoals, Indiana 47581

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 and 326 IAC 2-1-3.2 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T101-7691-00001	
Issued by: Janet G. McCabe, Assistant Commissioner Office of Air Management	Issuance Date:

First Significant Source Modification 101-11204	Pages Affected: 5, 10, 11, 38, 39, 40, 41, 52, 54, 54a, 55, 56, 57
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

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(t) One (1) mill packing system, with a maximum throughput of 10 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 40, and exhausting to one (1) stack, identified as S-40.

The following landplaster production facilities:

(u) A conveying system, consisting of screw conveyors and pneumatic conveyors, with particulate matter emissions controlled by two (2) baghouses, identified as emissions points 11 and 12, and exhausting to two (2) stacks, identified as S-11 and S-12, respectively. Some portions of the conveyor system are controlled by partial or total enclosure and exhaust to associated processes.

(v) Two (2) Raymond grinding mills, identified as Mills #1 and 2, each with a maximum throughput of 37 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 11, and exhausting to one (1) stack, identified as S-11.

(w) Two (2) Raymond grinding mills, identified as Mills #3 and 4, each with a maximum throughput of 37 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 12, and exhausting to one (1) stack, identified as S-12.

(x) One (1) landplaster airveyor bin, with a capacity of 2 tons, with particulate matter emissions uncontrolled, and exhausting inside the building.

(y) One (1) landplaster bin, with a capacity of 7 tons, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 36, and exhausting to one (1) stack, identified as S-36.

The following stucco production facilities:

(z) A conveying system, consisting of screw conveyors, with particulate matter emissions controlled by partial enclosure, and exhausting to associated processes or inside the building.

(aa) One (1) landplaster filter box, with a maximum throughput of 10 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 26, and exhausting to one (1) stack, identified as S-26.

(bb) One (1) landplaster fines receiving system, with a maximum throughput of 6 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 48, and exhausting to one (1) stack, identified as S-52.

(cc) Four (4) kettle feed bins, each with a capacity of 60 tons, with particulate matter uncontrolled, and exhausting inside the building.

(dd) One (1) kettle feed bins, with a capacity of 100 tons, with particulate matter uncontrolled, and exhausting inside the building.

(ee) One (1) calcining kettle, identified as #1 MBR Kettle, with a maximum throughput of 35.2 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 1, and exhausting to one (1) stack, identified as S-1.

(ff) Three (3) natural gas-fired kettle burners, identified as #1 MBR Kettle Burners, each with a heat input capacity of 5 million Btu per hour, and exhausting to one (1) stack, identified as S-41.

(gg) One (1) hot pit, identified as Hot Pit #1, with a maximum throughput of 35.2 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 6, and exhausting to one (1) stack, identified as S-6.

(hh) One (1) calcining kettle, identified as Kettle #2, with a maximum throughput of 12 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 2, and exhausting to one (1) stack, identified as S-2.

(ii) One (1) natural gas or fuel oil-fired kettle burner, identified as Burner #2, with a heat input capacity of 12 million Btu per hour, and exhausting to one (1) stack, identified as S-42.

(jj) One (1) hot pit, identified as Hot Pit #2, with a maximum throughput of 12 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 7, and exhausting to one (1) stack, identified as S-7.

(kk) One (1) calcining kettle, identified as Kettle #3, with a maximum throughput of 15 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 3, and exhausting to one (1) stack, identified as S-3.

(ll) Two (2) natural gas or fuel oil-fired kettle burners, identified as Burner #3, with a combined heat input capacity of 15 million Btu per hour, and exhausting to one (1) stack, identified as S-43.

(mm) One (1) hot pit, identified as Hot Pit #3, with a maximum throughput of 15 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 8, and exhausting to one (1) stack, identified as S-8.

(nn) One (1) calcining kettle, identified as Kettle #4, with a maximum throughput of 15 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 4, and exhausting to one (1) stack, identified as S-4.

(oo) Two (2) natural gas or fuel oil-fired kettle burners, identified as Burner #4, with a combined heat input capacity of 15 million Btu per hour, and exhausting to one (1) stack, identified as S-44.

(pp) One (1) hot pit, identified as Hot Pit #4, with a maximum throughput of 15 tons per hour, with particulate matter emissions controlled by enclosure, and vented to Hot Pit #3.

(qq) One (1) calcining kettle, identified as Kettle #5, with a maximum throughput of 27.5 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 5, and exhausting to one (1) stack, identified as S-5.

(rr) One (1) natural gas or fuel oil-fired kettle burner, identified as Burner #5, with a heat input capacity of 20 million Btu per hour, and exhausting to one (1) stack, identified as S-5.

(ss) One (1) hot pit, identified as Hot Pit #5, with a maximum throughput of 27.5 tons per hour, with particulate matter emissions controlled by enclosure, and vented to Kettle #5.

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

The following gypsum ore mining and storage facilities:

(a) One (1) primary crusher, with a maximum throughput of 250 tons per hour, with particulate matter emissions uncontrolled, and exhausting inside the mine.

(b) One (1) mine shaft conveyor, used to convey gypsum ore from the mine to the surface, with a maximum throughput of 250 tons per hour, with particulate matter emissions uncontrolled, and exhausting directly to the atmosphere.

(c) One (1) secondary crusher, with a maximum throughput of 250 tons per hour, with particulate matter emissions controlled by partial enclosure, and exhausting inside the crusher building.

(d) Two (2) ore storage silos, each with a capacity of 500 tons, with particulate matter emissions uncontrolled, and exhausting directly to the atmosphere.

(e) Ore storage piles, with a storage area of 3.75 acres, with particulate matter emissions uncontrolled, and exhausting directly to the atmosphere.

(f) One (1) synthetic gypsum storage shed, with a capacity of 0.64 acres, with particulate matter emissions controlled by partial enclosure, and exhausting directly to the atmosphere.

(g) One (1) synthetic gypsum storage bin, with a capacity of 60 tons, with particulate matter emissions controlled by filters, and exhausting inside the storage building.

(h) A conveying system, consisting of belt conveyors, with particulate matter emissions controlled by partial enclosure, and exhausting directly to the atmosphere.

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 PSD Minor Limit [326 IAC 2-2] [40 CFR 52.21]

The particulate matter emissions from the primary and secondary crushers shall not exceed 0.29 and 6.22 pounds per hour, respectively. Compliance with these limits make 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 not applicable. Compliance with these limitations shall also satisfy the requirements of 326 IAC 6-3.

D.1.2 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the gypsum ore mining and storage facilities shall not exceed 61 pounds per hour when operating at a process weight rate of 250 tons per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour

D.1.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and any control devices.

Compliance Determination Requirements

D.1.4 Testing Requirements [326 IAC 2-7-6(1),(6)]

The Permittee is not required to test these facilities by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facilities are in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.1.1 shall be determined by performance test(s) conducted in accordance with Section C - Performance Testing.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.5 Visible Emissions Notations

(a) Daily visible emission notations of the storage piles shall be performed during normal daylight operations while in operation. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.6 Record Keeping Requirements

(a) To document compliance with Condition D.1.4, the Permittee shall maintain records of daily visible emission notations of the storage piles.

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

The following bulk rock loading facilities:

(i) A conveying system, consisting of belt conveyors, with particulate matter emissions controlled by partial or total enclosure, and exhausting to associated processes or directly to the atmosphere.

(j) Two (2) rock ore screens, with a maximum throughput of 110 tons per hour, with particulate matter emissions controlled by partial enclosure, and exhausting directly to the atmosphere.

(k) One (1) crusher, with a maximum throughput of 110 tons per hour, with particulate matter emissions controlled by partial enclosure, and exhausting directly to the atmosphere.

(l) One (1) bulk rock storage silo, with a maximum capacity of 375 tons, with particulate matter emissions controlled by filters, and exhausting to the ambient air.

(m) One (1) loading station, with a maximum throughput of 150 tons per hour, with particulate matter emissions uncontrolled, and exhausting directly to the atmosphere.

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 PSD Minor Limit [326 IAC 2-2] [40 CFR 52.21]

The particulate matter emissions from the screening, crushing and loading operations shall not exceed 0.147, 1.10 and 0.020 pounds per hour, respectively. Compliance with these limits make 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 not applicable. Compliance with these limitations shall also satisfy the requirements of 326 IAC 6-3.

D.2.2 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the bulk rock loading facilities shall not exceed 55 pounds per hour when operating at a process weight rate of 150 tons per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour

D.2.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and any control devices.

Compliance Determination Requirements

D.2.4 Testing Requirements [326 IAC 2-7-6(1),(6)]

The Permittee is not required to test these facilities by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facilities are in

compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.2.1 shall be determined by performance test(s) conducted in accordance with Section C - Performance Testing.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.2.5 Visible Emissions Notations

(a) Daily visible emission notations of the loadout station shall be performed during normal daylight operations while in operation. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.2.6 Record Keeping Requirements

(a) To document compliance with Condition D.2.4, the Permittee shall maintain records of daily visible emission notations of the loadout station.

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.6 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

The following stucco production facilities:

(z) A conveying system, consisting of screw conveyors, with particulate matter emissions controlled by partial enclosure, and exhausting to associated processes or inside the building.

(aa) One (1) landplaster filter box, with a maximum throughput of 10 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 26, and exhausting to one (1) stack, identified as S-26.

(bb) One (1) landplaster fines receiving system, with a maximum throughput of 6 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 48, and exhausting to one (1) stack, identified as S-52.

(cc) Four (4) kettle feed bins, each with a capacity of 60 tons, with particulate matter uncontrolled, and exhausting inside the building.

(dd) One (1) kettle feed bin, with a capacity of 100 tons, with particulate matter uncontrolled, and exhausting inside the building.

(ee) One (1) calcining kettle, identified as #1 MBR Kettle, with a maximum throughput of 35.2 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 1, and exhausting to one (1) stack, identified as S-1.

(ff) Three (3) natural gas-fired kettle burners, identified as #1 MBR Kettle Burners, each with a heat input capacity of 5 million Btu per hour, and exhausting to one (1) stack, identified as S-41.

(gg) One (1) hot pit, identified as Hot Pit #1, with a maximum throughput of 35.2 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 6, and exhausting to one (1) stack, identified as S-6.

(hh) One (1) calcining kettle, identified as Kettle #2, with a maximum throughput of 12 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 2, and exhausting to one (1) stack, identified as S-2.

(ii) One (1) natural gas or fuel oil-fired kettle burner, identified as Burner #2, with a heat input capacity of 12 million Btu per hour, and exhausting to one (1) stack, identified as S-42.

(jj) One (1) hot pit, identified as Hot Pit #2, with a maximum throughput of 12 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 7, and exhausting to one (1) stack, identified as S-7.

(kk) One (1) calcining kettle, identified as Kettle #3, with a maximum throughput of 15 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 3, and exhausting to one (1) stack, identified as S-3.

(ll) Two (2) natural gas or fuel oil-fired kettle burners, identified as Burner #3, with a combined heat input capacity of 15 million Btu per hour, and exhausting to one (1) stack, identified as S-43.

(b) Pursuant to CP 101-4068, issued on January 27, 1995, the fuel oil usage for all facilities at the gypsum processing plant, including the calcining kettle burners, shall not exceed 3,000,000 gallons per 12 consecutive month period. In addition, the fuel oil shall not exceed three-tenths (0.3%) sulfur content by weight. Compliance with these limits make 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 not applicable. Compliance with these limits shall also satisfy the requirements of 326 IAC 7-1.1.

D.6.2 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the stucco production facilities shall not exceed 52.3 pounds per hour when operating at a process weight rate of 110.7 tons per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour

D.6.3 Sulfur Dioxide (SO_2) [326 IAC 7-1.1-2]

Pursuant to 326 IAC 7-1.1-2 (Sulfur Dioxide Emission Limitation), the SO_2 emissions from the kettle burners shall not exceed five-tenths (0.5) pound per million Btu.

D.6.4 New Source Performance Standard [326 IAC 12] [40CFR 60, Subpart UUU]

(a) Pursuant to 40 CFR 60, Subpart UUU (Standards of Performance for Calciners and Dryers in Mineral Industries), the #1 MKB Calcining Kettle shall meet the following requirements:

(1) Particulate matter (PM) emissions from the #1 MKB Calcining Kettle stack (S-1) shall not exceed 0.040 grains per standard cubic foot.

(2) Opacity from the #1 MKB Calcining Kettle stack (S-1) shall not exceed ten percent (10%).

(3) The #1 MKB Calcining Kettle shall be subject to the emission limitations set forth in this condition on or after the date of the initial performance test is completed, but no later than 180 days after the initial startup, whichever comes first.

(b) Calcining kettles #2, #3, #4, and #5 are not subject to this rule because they were constructed and modified prior to April 23, 1986.

D.6.5 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and any control devices.

Compliance Determination Requirements

D.6.6 Testing Requirements [326 IAC 2-7-6(1),(6)]

(a) The Permitee shall conduct performance tests required by 40 CFR 60.8, and shall determine compliance according to the methods and procedures specified in 40 CFR 60.736.

(b) Compliance testing for PM from the #1 MKB Calcining Kettle shall be performed within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up. These tests shall be performed in accordance with Section C - Performance Testing and 40CFR 60.736.

(c) The Permittee is not required to test the remaining stucco production facilities by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facilities are in compliance. If testing is required by IDEM, compliance with the PM and SO_2 limits specified in Conditions D.6.1, D.6.2, D 6.3 and D.6.4 shall be determined by performance test(s) conducted in accordance with Section C - Performance Testing, and testing shall be done simultaneously at all emission points.

D.6.7 Sulfur Dioxide Emissions and Sulfur Content

Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the fuel oil sulfur content does not exceed three-tenths percent (0.3%) by weight by:

(a) Providing vendor analysis of fuel delivered, if accompanied by a certification; or

(b) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.

(1) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and

(2) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.

D.6.8 Particulate Matter (PM)

Pursuant to OP 51-03-85-0021, OP 51-03-85-0022, OP 51-03-85-0023, OP 51-03-85-0024, issued on June 8, 1981, and PC (51) 1596, issued on December 3, 1985, the baghouses for PM control shall be in operation at all times when the calcining kettles are in operation.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.6.9 Visible Emissions Notations

(a) Daily visible emission notations of the kettle and hot pit stack exhausts (S-1 through S-8) and the filter box and landplaster bin stack exhausts (S-26 and S-52) shall be performed during normal daylight operations while in operation. Daily visible emission notations of the kettle burner stack exhausts (S-41 through S-44) shall be performed during normal daylight operations while combusting fuel oil. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.6.10 Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouses (Pt. 1 through 8, Pt. 26 and Pt. 48) used in conjunction with the stucco production facilities, at least once daily when the associated stucco production facilities are in operation. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouses shall be maintained within the range of 0.5 and 2.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.

D.6.11 Baghouse Inspections

An inspection shall be performed each calender quarter of all bags controlling the stucco production facilities. All defective bags shall be replaced.

D.6.12 Broken or Failed Bag Detection

In the event that bag failure has been observed.

(a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan

shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.6.13 Record Keeping Requirements

(a) To document compliance with Conditions D.6.1(b), D.6.3 and D.6.7, the Permittee shall maintain records in accordance with (1) through (8) below. Records maintained for (1) through (4) shall be taken monthly and shall be complete and sufficient to establish compliance with the emission limit established in D.6.1(b) and D.6.3.

(1) Calendar dates covered in the compliance determination period;

(2) Actual fuel oil usage since last compliance determination period;

(3) Sulfur content and heat content;

(4) Sulfur dioxide emission rates.

(5) A certification, signed by the owner or operator, that the records of the fuel supplier certifications represent all of the fuel combusted during the period; and

If the fuel supplier certification is used to demonstrate compliance with the sulfur content limit, the following, as a minimum, shall be maintained:

(6) Fuel supplier certifications;

(7) The name of the fuel supplier; and

(8) A statement from the fuel supplier that certifies the sulfur content of the fuel oil.

(b) To document compliance with Condition D.6.9, the Permittee shall maintain records of daily visible emission notations of the stucco production stack exhausts.

(c) To document compliance with Condition D.6.10, the Permittee shall maintain the following:

(1) Daily records of the following operational parameters during normal operation when venting to the atmosphere:

(A) Inlet and outlet differential static pressure; and

(B) Cleaning cycle: frequency and differential pressure.

(2) Documentation of all response steps implemented, per event.

(3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.

(4) Quality Assurance/Quality Control (QA/QC) procedures.

(5) Operator standard operating procedures (SOP).

(6) Manufacturer's specifications or its equivalent.

(7) Equipment "troubleshooting" contingency plan.

(8) Documentation of the dates vents are redirected.

(d) To document compliance with Condition D.6.11, the Permittee shall maintain records of the results of the inspections required under Condition D.6.11.

(e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.6.14 Reporting Requirements

(a) A quarterly summary of the information to document compliance with Conditions D.6.1(b) and D.6.3 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting form located at the end of this permit, or its equivalent, within thirty (30) days after the end of the quarter being reported.

(b) To document compliance with Condition D.6.9, the Permittee shall certify, on the form provided, that natural gas was fired in the kettle burners #1 through #4 at all times during the report period. Alternatively, the Permittee shall report the number of days during which an alternate fuel was burned during the report period. The form shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, within thirty (30) days after the end of the quarter being reported.

Indiana Department of Environmental Management
Office of Air Management

Technical Support Document (TSD) for a Part 70 Significant Source Modification

Source Background and Description

Source Name:	**United States Gypsum Company**
Source Location:	**State Road 650, Shoals, Indiana 47581**
County:	**Martin**
SIC Code:	**1499 and 3275**
Operation Permit No.:	**T 101-7691-00001**
Operation Permit Issuance Date:	**May 24, 1999**
Significant Source Modification No.:	**101-11204-00001**
Permit Reviewer:	**Patrick T. Brennan/MES**

The Office of Air Management (OAM) has reviewed a modification application from United States Gypsum Company relating to the construction of the following emission units and pollution control devices:

(ee) One (1) calcining kettle, identified as #1 MBR Kettle, with a maximum throughput of 35.2 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 1, and exhausting to one (1) stack, identified as S-1.

(ff) Three (3) natural gas-fired kettle burners, identified as #1 MBR Kettle Burners, each with a heat input capacity of 5 million Btu per hour, and exhausting to one (1) stack, identified as S-41.

(gg) One (1) hot pit, identified as Hot Pit #1, with a maximum throughput of 35.2 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 6, and exhausting to one (1) stack, identified as S-6.

History

On August 3, 1999, United States Gypsum Company submitted an application to the OAM requesting to replace Kettle # 1 in the stucco production facility with a newer design MBR Kettle at their existing plant. This modification will also replace the existing 12 million Btu per hour gas/oil fired Burner #1 with three(3) 5 million Btu per hour with gas-fired burners, and will include a capacity increase from 12 tons per hour to 35.2 tons per hour throughput at Kettle #1.

Existing Approvals

The source was issued a Part 70 Operating Permit on May 24, 1998.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
S-01	No. 1 Calcining Kettle	90.0	1.67	8,000	300
S-41	No. 1 Kettle Burners	90.0	3.50	NA	450-500
S-06	No. Kettle Hot Pit	22.0	0.83	2,500	200

Recommendation

The staff recommends to the Commissioner that the Part 70 Significant Source Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on August 3, 1999.

Approval of this Part 70 Significant Source Modification constitutes permission to construct only. Approval of Administrative Amendment 101-11293-00001, to be issued concurrently, will constitute permission to operate the modified facilities.

Emission Calculations

The calculations submitted by the applicant have been verified and found to be accurate and correct. These calculations are provided on pages 1, 2, and 3 of Appendix A to this document.

Potential To Emit of Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA.”

This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit. The PTE is based upon the modified capacity of 35.3 tons per hour throughput from #1 MBR Kettle, and a 15 MMbtu per hour total heat input capacity from the #1 MBR Kettle Burners.

Pollutant	Potential To Emit (tons/year)
PM	5,552
PM_{10}	5,553
SO_2	0.039
VOC	0.361
CO	5.52
NO_X	6.57

HAP's	Potential To Emit (tons/year)
Benzene	neg
Dichlorobenzene	neg
Formaldehyde	neg
Hexane	neg
Toluene	neg
Lead	neg
Cadmium	neg
Chromium	neg
Manganese	neg
Nickel	neg
TOTAL	neg

Justification for Modification

The Part 70 Operating permit is being modified through a Part 70 Significant Source Modification. This modification is being performed pursuant to 326 IAC 2-7-10.5(f)(4) because the modification has a potential to emit greater than or equal to 25 tons per year of PM_{10}.

County Attainment Status

The source is located in Martin County.

Pollutant	Status
PM_{10}	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC and NO_X emissions are considered when evaluating the rule applicability relating to the ozone standards. Martin County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_X emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Fugitive Emissions
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive PM emissions are not counted toward determination of PSD and Emission Offset applicability.

Source Status

Existing Source PSD or Emission Offset Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	**Emissions** (tons/year)
PM	249
PM_{10}	249
SO_2	64.5
VOC	2.90
CO	40.0
NO_X	160

Note: The source has an additional 71 tons per year of fugitive PM/PM_{10} that do not count toward major source PSD definition.

(a) This existing source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the 28 listed source categories.

(b) These emissions are based upon calculations presented in the existing Part 70 Operating Permit T101-7691-00001.

Potential to Emit of Modification After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 source modification.

	Potential to Emit (tons/year)						
Process/facility	PM	PM_{10}	SO_2	VOC	CO	NO_X	HAPs
#1 MBR Kettle	4.19	4.19	0.00	0.00	0.00	0.00	0.00
#1 MBR Hot Pit	1.36	1.36	0.00	0.00	0.00	0.00	0.00
#1 MBR Kettle Burners	0.125	0.499	0.039	0.361	5.52	6.57	neg
Total	5.68	6.05	0.039	0.361	5.52	6.57	neg
PSD Threshold Level	250	250	250	250	250	250	NA

This modification to an existing minor stationary source is not major because the emission increase is less than the PSD threshold levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

The existing Part 70 permit contains hourly PM limits for each controlled facility that ensure that the overall source wide PM emissions are limited to 249 tons per year. The existing Part 70 hourly PM limits for Kettle #1 and Hot Pit # 1 are compared with the maximum hourly PM emissions from the existing facilities (Kettle #1 and Hot Pit # 1) and the modified facilities (#1MBR Kettle and #1MBR Hot Pit) in the following table.

Process/facility	**Existing Part 70 PM Emission Limit** (lbs/hr)	**Existing Maximum PM Emissions** (lb/hr)	**Proposed Maximum PM Emissions** (lb/hr)
Kettle #1	1.52	0.774	0.956
Hot Pit #1	0.58	0.311	0.311

This comparison shows that the modified #1MBR Kettle and #1MBR Hot Pit operating at 35.2 tons per hour throughput will continue to meet the hourly PM limits established for the existing Kettle #1 and Hot Pit # 1 operating at 12 tons per hour. The modified source will continue to meet the existing 249 ton per year source wide PM limit, and is not requesting an additional 249 ton per year limit.

Federal Rule Applicability

(a) The #1 MKB Calcining Kettle is subject to the New Source Performance Standard, 326 IAC 12, (40 CFR 60.730 through 60.737, Subpart UUU, Standards for Performance of Calciners and Dryers in the Mineral Industries). This rule requires that:

(1) the owner or operator shall conduct performance tests required by 40 CFR 60.8, and shall determine compliance according to the methods and procedures specified in 40 CFR 60.736, and

(2) the affected facility that is subject to this subpart shall comply with the emission limitations set forth in this rule on and after the date that the initial performance test is completed, but no later than 180 days after the initial startup, whichever comes first, and

(3) no emissions shall contain particulate matter in excess of 0.040 grains per standard cubic foot, and

(4) no emissions shall exhibit opacity greater than ten percent (10%).

(b) Calcining kettles #2, #3, #4, and #5 are not subject to 40 CFR 60, Subpart UUU, because they were constructed and modified prior to April 23, 1986.

(c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this proposed modification.

State Rule Applicability - Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

This source located in Martin County, and will continue to be a minor source under PSD Rules, since none of the criteria pollutants have a potential to be emitted at a rate of two hundred and fifty (250) tons per year or greater and it is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2.

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than one hundred (100) tons per year of PM, SO_2 and NO_X. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by July 1 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8) (Emission Statement Operating Year).

326 IAC 5-1 (Opacity)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

U. S. Gypsum has accepted limitations on particulate emissions to remain a minor source under PSD rules. These limits are delineated on a facility by facility basis in the Part 70 operating permit,

T101-7691-00001. The existing PM limits for Calcining Kettle #1 and Hot Pit #1 are 1.52 and 0.58 pounds per hour respectively. The maximum hourly PM emissions from the modified facilities, after controls (0.956 and 0.311 pounds per hour respectively), are well within the existing PM limits. Therefore, the source will continue to be a minor source under PSD rules.

326 IAC 6-3-2 (Process Operations)

Pursuant to 326 IAC 6-3-2, particulate matter (PM) from the #1 MBR Calcining Kettle and the #1 MBR Hot Pit shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

The modified facilities will have a process weight of 35.2 tons per hour, which results in an hourly emission limit of 41.4 pounds per hour. Since the modified facilities will have maximum hourly emission rates after controls of 0.956 and 0.311 pounds per hour respectively, these facilities are in compliance with this rule.

The baghouse dust collectors shall be in operation at all times the #1 MBR Calcining Kettle and the #1 MBR Hot Pit are in operation, in order to comply with this limit.

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAM, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this modification are as follows:

1. The stucco production facility has applicable compliance monitoring conditions as specified below:

   (a) Daily visible emissions notations of the controlled stack exhausts shall be performed during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal"

means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Preventive Maintenance Plan for this unit shall contain troubleshooting contingency and corrective actions for when an abnormal emission is observed.

(b) The Permittee shall record the total static pressure drop across the all of the baghouses, at least once daily when the associated processes are in operation. Unless operated under conditions for which the Preventive Maintenance Plan specifies otherwise, the pressure drop across the baghouses shall be maintained within the range of 0.5 to 2.0 inches of water or a range established during the latest stack test. The Preventive Maintenance Plan for this unit shall contain troubleshooting contingency and corrective actions for when the pressure reading is outside of the above mentioned range for any one reading.

These monitoring conditions are necessary because the baghouses must operate properly to ensure compliance with 326 IAC 6-3-2 (Process Operations), 326 IAC 5-1 (Opacity), 40CFR Part 60, Subpart UUU (Standards for Performance of Calciners and Dryers in the Mineral Industries) and 326 IAC 2-7 (Part 70).

Proposed Changes

The permit language is changed to read as follows (deleted language appears as ~~strikeouts~~, new language appears in bold):

1. The equipment list in Section A.2 has been revised to include the modified facilities:

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

(ee) One (1) calcining kettle, identified as #1 MBR Kettle, with a maximum throughput of 35.2 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 1, and exhausting to one (1) stack, identified as S-1.

~~(ee) One (1) calcining kettle, identified as Kettle #1, with a maximum throughput of 12 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 1, and exhausting to one (1) stack, identified as S-1.~~

(ff) Three (3) natural gas-fired kettle burners, identified as #1 MBR Kettle Burners, each with a heat input capacity of 5 million Btu per hour, and exhausting to one (1) stack, identified as S-41.

~~(ff) One (1) natural gas or fuel oil-fired kettle burner, identified as Burner #1, with a heat input capacity of 12 million Btu per hour, and exhausting to one (1) stack, identified as S-41.~~

(gg) One (1) hot pit, identified as Hot Pit #1, with a maximum throughput of 35.2 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as

emissions point 6, and exhausting to one (1) stack, identified as S-6.

~~(gg) One (1) hot pit, identified as Hot Pit #1, with a maximum throughput of 12 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 6, and exhausting to one (1) stack, identified as S-6.~~

2. Conditions D.1.1 and D.2.1 have been added to ensure compliance with 326 IAC 2-2, (Prevention of Significant Deterioration). These conditions specify hourly PM limits, which represent 28.5 tons per year from ore mining and storage (D.1.1) and 5.57 tons per year from bulk rock loading (D.2.1). These emission rates represent full potential to emit from uncontrolled PM sources, are currently part of the overall site PM limit of 249 tons per year, used to avoid PSD. These limits do not represent a decrease in allowable emissions. They are included for clarification and to avoid confusion with the 326 IAC 6-3 allowable PM emissions.

   The new sections are as follows. All subsequent Section D.1 and D.2 conditions have been renumbered accordingly.

D.1.1 PSD Minor Limit [326 IAC 2-2] [40 CFR 52.21]

The particulate matter emissions from the primary and secondary crushers shall not exceed 0.29 and 6.22 pounds per hour, respectively. Compliance with these limits make 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 not applicable. Compliance with these limitations shall also satisfy the requirements of 326 IAC 6-3.

D.2.1 PSD Minor Limit [326 IAC 2-2] [40 CFR 52.21]

The particulate matter emissions from the screening, crushing and loading operations shall not exceed 0.147, 1.10 and 0.020 pounds per hour, respectively. Compliance with these limits make 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 not applicable. Compliance with these limitations shall also satisfy the requirements of 326 IAC 6-3.

3. The equipment list in Section D.6 has been revised to include the modified facilities:

SECTION D.6 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

The following stucco production facilities:

(ee) One (1) calcining kettle, identified as #1 MBR Kettle, with a maximum throughput of 35.2 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 1, and exhausting to one (1) stack, identified as S-1.

~~(ee) One (1) calcining kettle, identified as Kettle #1, with a maximum throughput of 12 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 1, and exhausting to one (1) stack, identified as S-1.~~

(ff) Three (3) natural gas-fired kettle burners, identified as #1 MBR Kettle Burners, each with a heat input capacity of 5 million Btu per hour, and exhausting to one (1) stack, identified as S-41.

~~(ff) One (1) natural gas or fuel oil-fired kettle burner, identified as Burner #1, with a heat input capacity of 12 million Btu per hour, and exhausting to one (1) stack, identified as S-41.~~

(gg) One (1) hot pit, identified as Hot Pit #1, with a maximum throughput of 35.2 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 6, and exhausting to one (1) stack, identified as S-6.

~~(gg) One (1) hot pit, identified as Hot Pit #1, with a maximum throughput of 12 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 6, and exhausting to one (1) stack, identified as S-6.~~

4. Section D.6.2 has been revised to reflect the increase in process weight.

D.6.2 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the stucco production facilities shall not exceed **52.3** ~~50~~ pounds per hour when operating at a process weight rate of **110.7** ~~87.5~~ tons per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

5. Condition D.6.4 has been added to address the New Source Performance Standard for Calciners and Dryers in the Minerals Industry. All subsequent Section D.6 conditions have been renumbered.

D.6.4 New Source Performance Standard [326 IAC 12] [40CFR 60, Subpart UUU]

(a) Pursuant to 40 CFR 60, Subpart UUU (Standards of Performance for Calciners and Dryers in Mineral Industries), the #1 MKB Calcining Kettle shall meet the following requirements:

(1) Particulate matter (PM) emissions from the #1 MKB Calcining Kettle stack (S-1) shall not exceed 0.040 grains per standard cubic foot.

(2) Opacity from the #1 MKB Calcining Kettle stack (S-1) shall not exceed ten percent (10%).

(3) The #1 MKB Calcining Kettle shall be subject to the emission limitations set forth in this condition on or after the date of the initial performance test is completed, but no later than 180 days after the initial startup, whichever comes first.

(b) Calcining kettles #2, #3, #4, and #5 are not subject to this rule because they were constructed and modified prior to April 23, 1986.

6. Condition D.6.5 (now D.6.6) has been revised to include performance testing for the #1 MKB Calcining Kettle.

~~D.6.5~~ **D.6.6** Testing Requirements [326 IAC 2-7-6(1),(6)]

(a) The Permitee shall conduct performance tests required by 40 CFR 60.8, and shall determine compliance according to the methods and procedures specified in 40 CFR 60.736.

(b) Compliance testing for PM from the #1 MKB Calcining Kettle shall be performed within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up. These tests shall be performed in accordance with Section C - Performance Testing and 40CFR 60.736.

(c) The Permittee is not required to test **the remaining stucco production** ~~these~~ facilities by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facilities are in compliance. If testing is required by IDEM, compliance with the PM and SO_2 limits specified in Conditions D.6.1, D.6.2, D 6.3 and **D.6.4** shall be determined by performance test(s) conducted in accordance with Section C - Performance Testing.

7. Conditions D.6.12 and D.6.13 (now D.6.13 and D.6.14) have been revised to incorporate changes in condition numbers for cross referenced conditions.

~~D.6.12~~ **D.6.13** Record Keeping Requirements

(a) To document compliance with Conditions D.6.1(b), D.6.3 and **D.6.7** ~~D.6.6~~, the Permittee shall maintain records in accordance with (1) through (8) below. Records maintained for (1) through (4) shall be taken monthly and shall be complete and sufficient to establish compliance with the emission limit established in D.6.1(b) and D.6.3.

(1) Calendar dates covered in the compliance determination period;

(2) Actual fuel oil usage since last compliance determination period;

(3) Sulfur content and heat content;

(4) Sulfur dioxide emission rates.

(5) A certification, signed by the owner or operator, that the records of the fuel supplier certifications represent all of the fuel combusted during the period; and

If the fuel supplier certification is used to demonstrate compliance with the sulfur content limit, the following, as a minimum, shall be maintained:

(6) Fuel supplier certifications;

(7) The name of the fuel supplier; and

(8) A statement from the fuel supplier that certifies the sulfur content of the fuel oil.

(b) To document compliance with Condition **D.6.9** ~~D.6.8~~, the Permittee shall maintain records of daily visible emission notations of the stucco production stack exhausts.

(c) To document compliance with Condition **D.6.10** ~~D.6.9~~, the Permittee shall maintain the following:

(1) Daily records of the following operational parameters during normal operation when venting to the atmosphere:

(A) Inlet and outlet differential static pressure; and

(B) Cleaning cycle: frequency and differential pressure.

(2) Documentation of all response steps implemented, per event.

(3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.

(4) Quality Assurance/Quality Control (QA/QC) procedures.

(5) Operator standard operating procedures (SOP).

(6) Manufacturer's specifications or its equivalent.

(7) Equipment "troubleshooting" contingency plan.

(8) Documentation of the dates vents are redirected.

(d) ~~(c)~~ To document compliance with Condition **D.6.11** ~~D.6.10~~, the Permittee shall maintain records of the results of the inspections required under Condition **D.6.11** ~~D.6.10.~~

(e) ~~(d)~~ All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

~~D.6.13~~ **D.6.14** Reporting Requirements

(a) A quarterly summary of the information to document compliance with Conditions D.6.1(b) and D.6.3 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting form located at the end of this permit, or its equivalent, within thirty (30) days after the end of the quarter being reported.

(b) To document compliance with Condition **D.6.9** ~~D.6.8~~, the Permittee shall certify, on the form provided, that natural gas was fired in the kettle burners #1 through #4 at all times during the report period. Alternatively, the Permittee shall report the number of days during which an alternate fuel was burned during the report period. The form shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, within thirty (30) days after the end of the quarter being reported.

Conclusion

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 101-11204-00001.

Appendix A: Emission Calculations
PM10 Emisions From Baghouse Operations

Company Name: United States Gypsum Company
Address City IN Zip: State Road 650, Shoals, Indiana 47581
SSM: 101-11204
Plt ID: 00001
Reviewer: Patrick T. Brennan/MES
Date: August 3, 1999

Unit ID	Control Efficiency (%)	Grain Loading per Standard Cubic foot of Outlet Air (grains/cub. ft.)	Gas or Air Flow Rate (scfm.)	PM10 Emission Rate before Controls (lb/hr)	PM10 Emission Rate before Controls (tons/yr)	PM10 Emission Rate after Controls (lb/hr)	PM10 Emission Rate after Controls (tons/yr)
#1 MBR Kettle	99.9%	0.020	5579.0	956	4189	0.956	4.19
#1 MBR Hot Pit	99.9%	0.020	1815.0	311	1363	0.311	1.36
Total				1268	5552	1.268	5.55

Methodology

Emission Rate in lbs/hr (after controls) = (grains/cub. ft.) (sq. ft.) ((cub. ft./min.)/sq. ft.) (60 min/hr) (lb/7000 grains)
Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)

Emission Rate in lbs/hr (before controls) = Emission Rate (after controls): (lbs/hr)/(1-control efficiency)
Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)

Allowable Rate of PM Emissions

Process Rate (lbs/hr)	Process Weight Rate (tons/hr)	Allowable Emissions (lbs/hr)	Allowable Emissions (tons/yr)
70,400	35.2	41.4	181.2

Methodology from 326 IAC 6-3-2

Allowable PM Emissions (lbs/hr) = (55.0 * (Process Weight Rate(ton/hr)^0.11) -40.0

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler

Company Name: United States Gypsum Company
Address City IN Zip: State Road 650, Shoals, Indiana 47581
SSM: 101-11204
Plt ID: 101-00001
Reviewer: Patrick T. Brennan/MES
Date: August 3, 1999

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
15.0	131.4

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.125	0.499	0.039	6.570	0.361	5.519

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).
See page 3 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler
HAPs Emissions

Company Name: United States Gypsum Company
Address City IN Zip: State Road 650, Shoals, Indiana 47581
SSM: 101-11204
Plt ID: 101-00001
Reviewer: Patrick T. Brennan/MES
Date: August 3, 1999

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	1.380E-04	7.884E-05	4.928E-03	1.183E-01	2.234E-04

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	3.285E-05	7.227E-05	9.198E-05	2.497E-05	1.380E-04

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.